ENERGY POLICY UPDATE

APRIL 21, 2015

The Energy Policy Update Electronic Newsletter is published by the Arizona Governor's Office Of Energy Policy and is provided free of charge to the public. It contains verbatim excerpts from international, domestic energy, and environment-related publications that are reviewed by Community Outreach Personnel. For inquiries, call 602-771-1143 or toll free to 800-352-5499. To register to receive this newsletter electronically or to unsubscribe, email Gloria Castro.

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U.S. Dept. of Energy Tribal Renewable Energy Webinar Series

U.S. Dept. of Energy Webinars

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The Arizona Republic now has limited access. As such, links may or may not work.

ARIZONA-RELATED

APS Smart-Meter Fees Rescinded

[Az Republic, Apr. 16] Opponents of smart utility meters won a small victory this week when regulators reversed their December decision to allow Arizona Public Service Co. to charge its customers $50 when they don't want a wireless meter on their homes. Smart meters use radio frequencies to transmit electricity usage to the utility for billing, and nearly all 1.1 million APS customers have them. But some customers disapprove of their use, citing health, safety and privacy concerns. About 20,000 APS customers refused to change out their old meters, which require an APS employee to read them manually before billing the customer. The Arizona Corporation Commission voted in December to allow APS to begin charging a $50 set-up fee for customers who want their smart meter replaced with a regular meter, plus $5 a month. They decided the 20,000 who never changed their meter didn't have to pay the set-up fee. APS initially asked the commission to charge those who want regular meters $75 as a set-up fee plus $30 a month, later reduced to $21 a month. APS officials contend that is the fair price for the additional cost of serving customers with regular meters. The regulators on Monday, after consulting with attorneys about formal complaints from two prominent smart-meter opponents, decided the company shouldn't be charging a fee at all until the matter is addressed in a full rate case, which APS expects to file next summer. APS had not yet begun charging the fees approved by the commission before the decision was reversed.

Green Developer Building Self-Powered Solar Lofts in Scottsdale

[Phx Business Journal, Apr. 8] Green real estate developer Ed Gorman is building energy efficient, solar-powered lofts in Scottsdale on Hayden Road. The 41- unit loft development is called Equinox. It incorporates energy efficient heat pumps, hot-water heaters, Energy Star appliances. It is located in south Scottsdale near Osborn Road. The Equinox complex is a joint venture between Gorman's Phoenix-based Modus Development and Scottsdale-based Viridis Group. "We are committed to continuing the redefinition of urban living in the Phoenix area, combining prime location with energy-saving technology and modern design," said Gorman who has developed other infill and green projects in the Valley. He said the complex is the first zero-net energy apartment development in the state.

SRP $3 Rate Hike Causing Confusion

[Az Republic, Apr. 17] The Salt River Project bills landing in mailboxes this month reflect a $3 increase in the basic service charge for residential customers, even though the utility said that fee would be "phased in" $1.50 at a time over the next year. Board members, customers and those who follow SRP's rate proceedings are confused by the hike, and some are asking for a $1.50 credit for the month. SRP board members on Feb. 26 approved a 3.9 percent rate increase. Part of the overall rate package was a $3 increase in the monthly basic service charge, to $20 from $17. Facing criticism over the increase, SRP's General Manager Mark Bonsall said the phase-in would reduce the impact on customers. "In a very brief description of what we're suggesting is that we phase in basically the monthly service charge for residential customers in two steps," Bonsall said Feb. 26 before the board voted. "Instead of going to $3 from the get-go, we would go to a dollar and a half. At the inception of this summer, it would remain a dollar and a half, and when next winter commences, it would go up to the full $3." So some board members and customers were surprised when bills this month reflected the full $3 increase. Aidan McSheffrey, SRP's chief financial executive, said it's not a mistake. He said SRP officials intended to increase the basic service charge by $3 in the April bill, then drop it

2015 UPCOMING EVENTS

Tribes and the New Energy Economy Conference
Apr. 22-23 Albuquerque, NM

Utility Solar Conference
Apr. 27-29 San Diego, CA

CxENERGY 2015 Conference & Expo
Apr. 27-30 Las Vegas, NV

16th Peak Load Management Alliance Spring Conference
Apr. 28-29 Tucson, AZ

Alternative Clean Transportation (ACT) Expo
May 4-7 Dallas, TX

NARUC Utility Rate School - Western
May 11-15 San Diego, CA

2015 Energy Symposium
May 12-14 Monterey, CA

NASEO 2015 West Regional Meeting
May 14-15 Portland, OR

Solar Power Generation Mexico
May 19-20
World Trade Center, Mexico

Better Buildings Summit
May 27-29 Washington, DC

Energy Efficiency Finance Forum
May 31-Jun. 2 San Francisco, CA

Industrial Energy Tech. Conference 2015
Jun. 2-5 New Orleans, LA

33rd West Coast Energy Mgmt. Congress
Jun. 3-4 Long Beach, CA

National Geothermal Summit
Jun. 3-4, Reno, NV

14th Annual Small Business Forum & Expo
Jun. 16-18 Phoenix, AZ

by $1.50 for summer, then raise it by another $1.50 to $20 in November. He said he doesn't count the immediate $3 increase for the current bills as a step.

Study: Phoenix Second Best in US for Green Living
[Phx Business Journal, Apr. 13] Phoenix ranks second in the U.S. for green living, according to a new report by real estate company Trulia. Trulia looked at homes offering environmentally friendly amenities and components. Those ranged from solar energy panels to low flow toilets. St. Louis comes in first followed by Phoenix, Austin, Fort Worth, Denver and Dallas. Trulia experts note that green homes will make up as much as 38 percent of the construction market next year. Phoenix ranks ahead of some others big U.S. cities on the list. That includes San Jose (7th), San Francisco (8th), Riverside-San Bernardino (9th), Cambridge, Massachusetts (12th), Orange County (13th), Los Angeles (14th), Seattle (16th), San Diego (17th) and Boston (19th).

Utilities Prepared To Beat Summer Heat
[Az Republic, Apr. 18] Arizona utilities say they can handle the anticipated summer electricity demand, which is not expected to set records as air-conditioners crank up. Even though the economy has made modest gains, electricity use isn't setting peaks. The companies updated the Arizona Corporation Commission last week on the resources they have available as temperatures spike this summer and energy use peaks. A bad storm or other event could always trigger a power outage, but the companies must ensure they have adequate power plants, lines and other infrastructure to meet the demand. The peak power demand is the moment during the year when electricity demand is highest, occurring on hot afternoons in Arizona when air-conditioning use spikes. The slide shows the utilities presented to regulators don't mention the capacity they get from rooftop solar in particular with relation to peak demand, but they do note growing additions of renewable energy, which includes large purchases of wind, geothermal and other alternative energy. Salt River Project expects a peak demand on its system of 6,715 megawatts, according to its update to the regulators. That would be just shy of the peak of 6,716 megawatts of electricity its customers needed to keep appliances running July 24, 2014 close to 5 p.m., when the company last set a record. Arizona Public Service Co. predicts a peak of 6,886 megawatts. The APS peak of 7,236 megawatts was set July 21, 2006. According to its ACC presentation, the company doesn't expect a peak that high through 2017.

ALTERNATIVE ENERGY & EFFICIENCY

Energy Department To Fund R&D To Advance Low-Impact Hydropower Technologies
[Energy.gov website, Apr. 9]The Energy Department today announced $7 million in funding for the research and development of innovative technologies for low-impact hydropower systems. This funding will help advance hydropower drivetrains, which transfer rotational energy from turbines to generators, and structural foundations that will minimize environmental impacts and reduce the lifetime costs associated with operating and maintaining new hydropower projects. While hydropower already supplies roughly 7% of America's electricity and is the leading source of renewable power, the nation still has significant untapped resources across the country where new hydropower generating capabilities could boost our supply of carbon-free energy. Recent Energy Department reports show that the United States has an additional 65 gigawatts of hydropower potential in undeveloped rivers and streams and more than 12 gigawatts of hydropower potential—if fully developed—at our nation's non-powered dams. New and advanced hydropower technologies will help harness these major opportunities for clean, renewable energy that can help address climate change.

Fossil Fuels Just Lost the Race Against Renewables
This is the beginning of the end.
[Bloomberg, Apr. 14] The race for renewable energy has passed a turning point. The world is now adding more capacity for renewable power each year than coal, natural gas, and oil combined. And there's no going back. The shift occurred in 2013, when the world added 143 gigawatts of renewable electricity capacity, compared with 141 gigawatts in new plants that burn fossil fuels, according to an analysis presented Tuesday at the Bloomberg New Energy Finance annual summit in New York. The shift will continue to accelerate, and by 2030 more than four times as much renewable capacity will be added.

How Google's Nest Will Make Residential Solar 'Smarter'
[Forbes, Apr. 20] Nest, best known for its fancy-looking "learning thermostat," has dabbled in

ASHRAE Annual Conference
Jun. 27-Jul.1 Atlanta, GA

ACEEE Summer Study on Energy Efficiency in Industry
Aug. 4-6 Buffalo, NY

Energy Efficiency Exchange: Federal Training & Knowledge
Aug. 11-13 Phoenix, AZ

Solar Power Int'l. 2015
Sep. 14-17 Anaheim, CA

2015 North American NGV Conference & Expo
Sep. 15-17 Denver, CO

ACEEE National Conference on Energy Efficiency as a Resource
Sep. 20-22 Little Rock, AR

World Energy Engineering Congress (WEEC)
Sep. 30-Oct. 2 2015
Orlando, FL

Greenbuild Int'l. Conference & Expo
Nov. 18-20 Washington, DC

Renewable Energy World Conference & Expo
Dec. 8-10 Las Vegas, NV

ASU Sustainability Series Events

Green Building Lecture Series
Scottsdale, AZ

the energy business. For starters, its thermostat can save you a hundred or so dollars a year by more efficiently heating or cooling your home based on your schedule. Also, Nest has established partnerships with utilities that give them access to Nest devices for customers who opt-ion and allow them to manage energy loads at peak times. Now Nest is getting into the solar business. The company, which was acquired by Google GOOGL +2.15% in 2014 for $3.2 billion in cash, last week said it would be giving free thermostats to the next 10,000 customers in California who buy a SolarCity SCTY +1.16% system. More important, SolarCity will be able to tap into those thermostats through the "Work with Nest" program to tailor energy production to household power demands. SolarCity hasn't worked out all the technical details about how its solar system is going to integrate with Nest, but their overall plans are interesting. Solar production could be tied in more closely with what kind of energy demands there are for each individual home. Nest's thermostat gathers information about temperature and occupancy and could tie that with solar production. Through the "Works with Nest" program, SolarCity could also coordinate energy production with all of the other devices that work with Nest's smart thermostat. Nest claims that around 7,000 developers are working on integration in its "Works with Nest" program, but has only announced a few dozen official integrations, including with energy-hungry appliances like Whirlpool WHR +2.77% washing machines.

New Toolkit To Help Local Governments with Solar Financing
A comprehensive resource to help streamline solar power purchase agreements and reduce solar costs
[IREC website, Apr. 13] In an effort to reduce solar soft costs and assist local governments and other public entities seeking to install and finance rooftop solar systems, IREC has developed a comprehensive toolkit on retail solar power purchase agreements (PPAs). This detailed, uniquely informative resource was released today and is available for download at no charge. Under the PPA model, a third party owns a solar energy system located on the property of a host customer, such as a local government, and sells the electricity produced by the facility to the customer under a contract designed to provide long-term electricity cost savings.
For public entities, the PPA model delivers long-term energy cost savings without requiring large up-front capital expenditures. It also allows them to indirectly benefit from tax incentives that cannot be accessed by tax-exempt entities.

Solar Power Battle Puts Hawaii at Forefront of Worldwide Changes
[New York Times, Apr. 18] HONOLULU — Allan Akamine has looked all around the winding, palm tree-lined cul-de-sacs of his suburban neighborhood in Mililani here on Oahu and, with an equal mix of frustration and bemusement, seen roof after roof bearing solar panels. Mr. Akamine, 61, a manager for a cable company, has wanted nothing more than to lower his $600 to $700 monthly electric bill with a solar system of his own. But for 18 months or so, the state's biggest utility barred him and thousands of other customers from getting one, citing concerns that power generated by rooftop systems was overwhelming its ability to handle it. Only under strict orders from state energy officials did the utility, the Hawaiian Electric Company, recently rush to approve the lengthy backlog of solar applications, including Mr. Akamine's. It is the latest chapter in a closely watched battle that has put this state at the forefront of a global upheaval in the power business. Rooftop systems now sit atop roughly 12 percent of Hawaii's homes, according to the federal Energy Information Administration, by far the highest proportion in the nation. "Hawaii is a postcard from the future," said Adam Browning, executive director of Vote Solar, a policy and advocacy group based in California. Other states and countries, including California, Arizona, Japan and Germany, are struggling to adapt to the growing popularity of making electricity at home, which puts new pressures on old infrastructure like circuits and power lines and cuts into electric company revenue. As a result, many utilities are trying desperately to stem the rise of solar, either by reducing incentives, adding steep fees or effectively pushing home solar companies out of the market. In response, those solar companies are fighting back through regulators, lawmakers and the courts. The shift in the electric business is no less profound than those that upended the telecommunications and cable industries in recent decades. It is already remaking the relationship between power companies and the public while raising questions about how to pay for maintaining and operating the nation's grid. The issue is not merely academic, electrical engineers say.

The Big Energy Debate That Solar Power Has Finally Won
The cost of solar panels has dropped from $150/watt in 1970 to 60 cents/watt today.
[CNBC.com, Apr. 21] For nearly half a century, homeowners and utilities have mounted solar panels on rooftops and in massive generation projects in the desert. Much of that was only

made economical because of tax breaks and subsidies, such as California's Solar Initiative (CSI)—or the Million Solar Roof Initiative, as it is often called—and the federal Investment Tax Credit (ITC), which paid for as much as 50 percent of the costs. But solar is no longer a charity case. It's now grown up to out-compete conventional energy generation in many ways. Not only has the cost of solar panels dropped from $150/watt in 1970 to 60 cents/watt today, the industry that was jump-started by the early incentive programs also resulted in a dramatic drop in the "balance of system" costs—design, installation, electrical connections, etc. The installed cost of solar in 2007, when the CSI began, was nearly $10/watt of generating capacity. Today it's down to just over $5/watt for residential and about $4/watt for utility-scale projects. Expressed another way, the average cost in the U.S. of generating energy from the sun is about $130/megawatt hour compared to coal-fired generation at $147 and conventional natural gas generation at $128. Solar, installed where the energy is used, is also more efficient than large centralized generation, where electrons must travel many miles over transmission lines, losing more than 6 percent of the energy along the way, meaning the effect of every megawatt of solar is greater to the nation's energy supply than conventional systems.

ENERGY/GENERAL

Annual Energy Outlook 2015 Presents Yearly Projections and Analysis of Energy Topics
Download the AEO2015 Report
[U.S. Energy Information Administration, Apr. 14] Projections in the *Annual Energy Outlook 2015* (AEO2015) focus on the factors expected to shape U.S. energy markets through 2040. The projections provide a basis for examination and discussion of energy market trends and serve as a starting point for analysis of potential changes in U.S. energy policies, rules, and regulations, as well as the potential role of advanced technologies.

The Oil Industry's 'Man Camps' Are Dying
Drillers spent big to house workers in the new boomtowns. No more
[Bloomberg, Apr. 15] At the peak of the fracking boom a few years ago, Jeff Myers converted his South Texas hunting camp into rental oilfield housing. Little wonder: The industry had an almost insatiable hunger for the grunt laborers—the roughnecks—to work the fields, and employers were happy to spend whatever it took to house and feed them. Today that boomtown demand—and $100-per-barrel prices—is a bittersweet memory, and occupancy at Myers's once-packed Double C Resort has dropped to 10 percent as job cuts take hold. "There aren't going to be any winners down here," he says. "Everybody's going to have to adjust." America's oilfield "man camps"—as the industry calls them—are turning into ghost towns as drillers cut back the free housing, food, and air travel once used to lure shale boom workers. The mini-settlements that sprang up throughout drilling regions in Texas, North Dakota, and Colorado are fading away as energy companies look to slash as much as $114 billion in spending this year, says a Cowen Group survey, and lay off tens of thousands of employees.

INDUSTRIES AND TECHNOLOGIES

ChargePoint Solves Home Charging for Apartments and Condos
[Electric Car Report, Apr. 13] ChargePoint, the world's largest and most open EV charging network, today announced a new service program for apartments and condominiums which will allow residents to charge their EVs at home. Participating property managers will prep the individual parking spots with wiring for EV charging and set a price for electricity. ChargePoint will bill the resident a one-time activation fee and a monthly subscription fee for EV charging services. Included in this is a fully installed level 2 charging station with comprehensive 24/7 support. ChargePoint will also enable residents to pay the property owner for their energy usage using their ChargePoint account. With no long-term contract, property managers and tenants can participate in the program on a month-to-month basis. If a resident moves, the charging station will simply be deactivated until another EV driving resident decides to subscribe to the service. Drivers will be able to manage all of their home and public EV charging through the same ChargePoint mobile application they already use to satisfy their charging needs at work or around town.

How CenterPoint's Integrated Smart Grid Is Paying Off
[Green Tech Media, Apr. 16] Back in 2009, Texas utility CenterPoint Energy landed a $200 million Department of Energy stimulus grant to carry out a $750 million smart grid project, one of the biggest in the country. It started with 2.3 million smart meters capable of detecting power outages and helping field crews and customers know how quickly they could be fixed, and

added some 750 “Intelligent Grid” devices to reroute power across storm-damaged distribution circuits in seconds. Finally, it has connected it all with a high-speed wireless network and an underlying advanced distribution management software (ADMS) platform, one that's collecting and analyzing data for utility departments from field crews to financial planners. Early this month, the utility serving the greater Houston area got a thumbs-up from DOE officials for turning that investment into tangible value. On the outage management front, CenterPoint has signed up more than 400,000 customers to its outage auto-alert system, giving them up-to-date notification of when power will be restored. At the same time, it has used its smart meters’ outage detection capabilities to restore power to more than 1 million customers without them having to pick up the phone -- the traditional way that utilities learn of power outages on the edges of their network. As for its Intelligent Grid project, also known as a fault location, isolation and service restoration (FLISR) system, it has prevented more than 102 million customer outage minutes in more than 1,000 outage events since 2011, according to CenterPoint's latest statistics. The IG system now covers about 13 percent of CenterPoint's distribution system, serving about 417,000 customers, and the utility plans to take it system-wide over the next decade or so.

Hydrogen Fuel Cell Cars Return for Another Run

[New York Times, Apr. 16] FOR decades, hydrogen has been the Dracula of automotive fuels: Just when you think a stake has been driven through its zero-emissions heart, the technology rises from the grave. In 2015, even with gasoline cheaper than it has been in years, hydrogen is back to haunt those who insist that battery electric vehicles are the long-term solution for reducing fossil fuel consumption and carbon dioxide emissions. This time — with hydrogen fuel cell costs falling significantly, and a tiny yet budding network of public fueling stations — automakers are placing their latest long-odds bet on hydrogen cars. Hyundai has been first in the latest wave of fuel cell models, which are actually electric cars with one important difference: Instead of a plug-in battery that draws power from the electrical grid, a fuel cell generates power from an electrochemical reaction between onboard hydrogen and oxygen in the air. Clean water trickles out the tailpipe as the only byproduct. In a technical riposte to most battery electric vehicles, which generally travel less than 100 miles on a charge, and take several hours to recharge, fuel cell cars operate as conveniently as gasoline models. They travel roughly 300 miles on a tank, and their ultrastrong carbon-fiber tanks can be pumped full of hydrogen in less than 10 minutes. Count David Uselton and his wife, Suelyn, as true believers.

New Stanford Energy System Cuts Greenhouse Gas Emissions 68 Percent and Fossil Fuel 65 Percent

[Stanford News, Apr. 16] Stanford University has converted to a state-of-the-art energy system that relies on renewable electricity and provides a new transformational energy supply model for large organizations, utilities and governments. The university today announced a new agreement to provide the majority of its campus electricity from renewable sources within California. A Stanford Solar Generating Station, to be designed and built by SunPower, is expected to provide half of all campus electricity. Combined with planned solar power from installations on campus rooftops and the purchase of further renewable power from the grid, renewable energy will supply 65 percent of all campus electricity. The renewable energy is joined by a first-of-its-kind campus heat recovery system, which began operating March 24 to heat and cool campus buildings. The combined new system – Stanford Energy System Innovations (SESI) – makes Stanford one of the most energy-efficient research universities in the world. It far exceeds the aggressive goals of California's AB 32 Global Warming Solutions Act, which seeks to reduce greenhouse gas emissions to 1990 levels by 2020.

The $5 Billion Race to Build a Better Battery

Young companies staked by big backers are challenging fossil fuels with new ways to hold sun and wind power in the $50 billion energy storage market.

[Bloomberg, Apr. 13] Professor Donald Sadoway remembers chuckling at an e-mail in August 2009 from a woman claiming to represent Bill Gates. The world’s richest man had taken Sadoway’s Introduction to Solid State Chemistry online, the message explained. Gates wondered if he could meet the guy teaching the popular MIT course the next time the billionaire was in the Boston area, *Bloomberg Markets* magazine will report in its May issue. “I thought it was a student prank,” says Sadoway, who’s spent more than a decade melting metals in search of a cheap, long-life battery that might wean the world off dirty energy. He’d almost forgotten the note when Gates’s assistant wrote again to plead for a response. A month later, Gates and Sadoway were swapping ideas on curbing climate change in the chemist’s second-

story office on the Massachusetts Institute of Technology campus. They discussed progress on batteries to help solar and wind compete with fossil fuels. Gates said to call when Sadoway was ready to start a company. “He agreed to be an angel investor,” Sadoway says. “It would have been tough without that support.” Sadoway is ready. He and a handful of scientists with young companies and big backers say they have a shot at solving a vexing problem: how to store and deliver power around the clock so sustainable energies can become viable alternatives to fossil fuels. How these storage projects are allowing utility power customers to defect from the grid is one of the topics for debate this week at the Bloomberg New Energy Finance conference in New York. Today’s nickel-cadmium and lithium-ion offerings aren’t up to the task. They can’t run a home for more than a few hours or most cars for more than 100 miles (160 kilometers). At about $400 per kilowatt-hour, they’re double the price analysts say will unleash widespread green power. “Developing a storage system beyond lithium-ion is critical to unlocking the value of electric vehicles and renewable energy,” says Andrew Chung, a partner at Menlo Park, California–based venture capital firm Khosla Ventures.

LEGISLATION AND REGULATION

Biden Visits Philadelphia To Highlight Energy Plan

[Az Republic, Apr. 21] PHILADELPHIA — The White House on Tuesday released a four-year energy plan designed to fight climate change, modernize power plants and find other ways to ensure the nation a steady supply of safe energy. Vice President Joe Biden is planning to visit Peco Energy Co. in Philadelphia on Tuesday afternoon to discuss the administration's Quadrennial Energy Review. The report said the U.S. has become the world's leading producer of oil and natural gas combined as its dependence on foreign oil declines. The review also found that electricity from solar sources has increased 20-fold since 2008, while the amount of wind energy produced has tripled. Administration officials have been meeting with major utility firms, experts and other stakeholders to assess the nation's energy situation and analyze future needs. "Responding to these trends and issues ... will require that we address the growing vulnerabilities posed by climate change, the evolving energy mix, cyber and physical threats, growing interdependencies, aging infrastructure, and workforce needs," the White House said in a press release Tuesday accompanying the report.

High Court: Energy Companies Must Face Price Fixing Claims

[Associated Press, Apr. 21] WASHINGTON — The Supreme Court says a group of energy companies can be sued under state antitrust laws for illegally manipulating natural gas prices more than a decade ago during California's energy crisis. The justices on Tuesday ruled 7-2 against American Electric Power Co., Duke Energy Co. and other natural gas traders arguing that federal law precludes state law claims. Natural gas customers allege the companies falsely reported data to industry trade publications, leading to higher gas prices.

Obama Administration Sets Agenda To Modernize Energy Infrastructure

[Reuters, Apr. 21] WASHINGTON - The Obama administration on Tuesday announced plans to modernize the country's aging energy infrastructure and make it more resilient to challenges ranging from extreme weather to changing domestic energy production. The Quadrennial Energy Review, more than a year in the making, recommends a program that would accelerate natural gas pipeline replacement, modernize the Strategic Petroleum Reserve and award up to $350 million to help states improve the reliability of their electricity delivery. The report, which is the administration's first attempt to analyze the country's energy systems, highlights several opportunities to overhaul and invest in U.S. energy transmission, storage and distribution networks and offers policy recommendations for lawmakers and officials. The massive expansion of domestic oil and gas production, and the ensuing congestion on rails and waterways to transport these fuels, and the rapid boom in renewable energy have major energy policy implications, as does the vulnerability of the electrical grid to extreme weather and cyber-attacks, the report said.

Solar Lobbies of the World Unite in Global Pressure Group

[Bloomberg, Apr. 21] Solar lobbies from Germany, Greece, Spain and at least 10 other countries agreed to form the first international photovoltaic industry association in a bid to influence energy policies around the world. The Global Solar PV Council, due to start by the end of the year, will allow “an exchange of experience, best practices and a global representation of interests,” David Wedepohl, a spokesman for Germany’s BSW-Solar lobby, said Tuesday by e-mail. It will speak for the industry at “all the strategic global meetings on energy and the environment.” Nations around the world are adding solar capacity to meet

growing energy demand without raising emissions. As power producers expand their photovoltaics business, there's an increasing need for representation among global policy makers to ensure predictable, long-term support for renewable energy.

WESTERN POWER

California Court Rules Water Pricing Plan Violates Law

[New York Times, Apr. 20] LOS ANGELES — A California appeals court dealt a setback Monday to one of the main tools drought regulators want to use to force reductions in urban water use, saying a tiered pricing plan in the Orange County city of San Juan Capistrano that charged higher rates for big water consumers violated a voter-passed amendment to the State Constitution. The appeals court said that a four-tiered pricing plan adopted by San Juan Capistrano was in violation of Proposition 218, an initiative overwhelmingly passed by California voters in 1996 that prohibits government agencies from charging more for services than their actual cost. The Fourth District Court of Appeal in Orange County, upholding part of a lower court ruling, said that San Juan Capistrano had failed to show a connection between the cost it was charging consumers and how much it paid to obtain and distribute the water. But the appeals court sent the case back to the Orange County Superior Court judge, saying that this kind of pricing structure — known as conservation pricing — was acceptable if the water agency can show such a connection. It said that San Juan Capistrano's water agency, known as City Water, had failed to do so, and invited it to try again. The decision came as California regulators are in the final steps of carrying out an executive order by Gov. Jerry Brown that imposes a 25 percent statewide reduction in urban water use as this region enters the fourth year of a drought. The reduction is supposed to be enforced by about 400 local water agencies, and one of the main tools to accomplish this was the use of conservation pricing. Mr. Brown denounced the appeals court's decision.

New Mexico AG Opposes Proposed Solar Energy Fee

[Electric Light & Power, Apr. 16] ALBUQUERQUE, N.M. — The state attorney general's office has come out against a proposal by New Mexico's largest electric utility to charge customers with new solar power systems a monthly fee to connect to the grid. The office filed a motion this week in support of dismissing Public Service Co. of New Mexico's request. Attorney General Hector Balderas also has asked state regulators to investigate the effects of distributed generation on the utility system. Distributed generation refers to solar panels or wind turbines on homes and businesses that generate electricity and are connected to the grid.

SoCalGas Transforms Renewable Power into Hydrogen Gas for Storing

[PV Energy Trend, Apr. 14] Southern California Gas Company (SoCalGas), National Renewable Energy Laboratory (NREL) and the National Fuel Cell Research Center (NFCRC) collaboratively launch demonstration projects to create hydrogen gas from carbon-free renewable energies, such as solar and wind, for storing. The so-called "power-to-gas" technology converts electricity into gaseous energy and could provide North America with a large-scale, cost-effective solution for storing excess energy produced from renewable sources. Using electrolyzer-based methods, the power-to-gas concept uses electricity from renewable sources, such as solar and wind power, to make carbon-free hydrogen gas by breaking down water into hydrogen and oxygen. The hydrogen can then be converted to synthetic, renewable methane — traditional natural gas — and stored to meet future energy needs. It can also be used as a multi-purpose energy source for vehicles, micro-turbines, fuel cells or other equipment.

ARIZONA STATE INCENTIVES/POLICIES

ARIZONA COMMERCE AUTHORITY (ACA)

- **INCENTIVES**

  Arizona has lowered taxes, streamlined regulations, and established a suite of incentives to support corporate growth and expansion. The Arizona Competitiveness Package, groundbreaking legislation adopted in 2011, makes it easier for existing Arizona companies to prosper and establishes Arizona as one of the most desirable places for expanding companies to do business. Give your company a competitive edge by utilizing Arizona's incentives.

- Job Training
- Quality Jobs
- Qualified Facility
- Computer Data Center Program
- Research & Development
- Foreign Trade Zone
- Military Reuse Zone
- Angel Investment
- Renewable Energy Tax Incentive
- Healthy Forest
- Sales Tax Exemption for Machinery and Equipment
- Lease Excise
- Additional Depreciation
- Work Opportunity
- Commercial/Industrial Solar
- SBIR/STTR
- Private Activity Bonds
- QECB's

- **(ACA) PROGRAMS**

- **DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (DSIRE)**

  - Arizona Incentives/Policies
  - Federal Incentives/Policies
  - Solar Policy News

  The DSIRE website provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

GRANTS

Students – Geothermal Resources Council (GRC) – The GRC presents news and information for students in the global geothermal community. There are some great opportunities for student scholarships in geothermal. For more information, visit the link below. You will find "Scholarships" half way down the page.

Website: http://www.geothermal.org/students.html
The following solicitations are now available:
(Click on title to view solicitation)
- -

- Planning Program and Local Technical Assistance Program (EDAPLANNING2012)– Applications Accepted on a Continuous Basis
-
- National Facilities Program (PD-05-1743) - Applications Accepted on a Continuous Basis

- Environmental Quality Incentive Program – Applications Accepted on a Continuous Basis

- American Indian Air Quality Training Program (EPA-OAR-IO-15-03) – Applications

- DUE SOON! Near Zero Power RF and Sensor Operations (DARPA-BAA-15-14) – Applications due April 23, 2015

- Solar Powering America by Recognizing Communities (SPARC)
  Funding Number: DE-FOA-0001241 – Concept Paper Submission Deadline: 3/5/2015 5:00 PM ET; Full Application Submission Deadline:4/27/2015 5:00 PM ET;
  Webinar Information: Date: February 18, 2015 Time: 4:00pm Eastern
  Register here: https://attendee.gotowebinar.com/register/3005409845756656642

- Market Development Cooperator Program 2015 (ITA-INA-OPCM-2015-2004375) – Applications due April 27, 2015

- Desalination and Water Purification Research and Development (DWPR) (R15AS00019) – Application Due Date: 4/27/2015

- Desalination and Water Purification Research and Development (DWPR) Pilot (R15AS00021) – Application Due Date: 4/27/2015
- American Apprenticeship Initiative (FOA-ETA-15-02) – Application Due Date: 4/30/2015
- The Resilient Electricity Delivery Infrastructure (REDI) Initiative (DE-FOA-0001219) – Application Due Date: 5/04/2014
- DUE SOON! Natural Gas Pilot Demonstration Project – Applications due May 7, 2015
- 2015 Federal-State Marketing Improvement Program (USDA-AMS-FSMIP-2015) – Applications due May 14, 2015
- Fiscal Year 2015 Pollution Prevention Grant Program (EPA-HQ-OPPT-2015-002) – Applications due May 14, 2015
- Recuperator Technology Development and Assessment for Supercritical Carbon Dioxide (SCO2) Based Power Cycles – Applications due May 15, 2015
- Tribal Pesticide Program Council (TPPC) Technical Support Grant (EPA-OPP-2015-002) – Applications due May 21, 2015
- Fiscal Year 2015 Pollution Prevention Information Network (PPIN) Grant Program (EPA-HQ-OPPT-2015-001) - Applications due May 22, 2015
- Flexible Hybrid Electronics Manufacturing Innovation Institute Grant (BAA-RQKM-2015-0014) – Applications due 5/29/2015
- Economic Development Assistance Programs (EDAP2015) – Applications due June 15, 2015
- Presidential Awards for Excellence in Science, Mathematics and Engineering Mentoring Grant (NSF 15-551) – Applications due June 19, 2015
- Tribal Energy Development Capacity Grants (BIA-TEDC-15-FA-0002) – Applications due June 19, 2015
- Energy and Mineral Development Grants (BIA-15-FA-0001) – Applications due June 23, 2015
- Land and Water Conservation Fund State and Local Assistance Program – Application Due Date: 08/11/2015
- Decision, Risk and Management Sciences (PD-98-1321) - Applications due August 18, 2015
- Advanced Frontiers in Renewable Hydrogen Fuel Production via Solar Water Splitting Technologies – Letter of Intent due 10/7/2015
- Thermal Transport Processed (PD-14-1406) – Application due 10/20/2015
- Energy for Sustainability (PD-14-7644) – Applications due October 20, 2015
- Biotechnology, Biochemical, and Biomass Engineering (PD-14-1491) - Applications due October 20, 2015
- Catalysis and Biocatalysis (PD-14-401) - Applications due October 20, 2015

- Energy, Power, and Adaptive Systems (PD-13-7607) –Applications due November 2, 2015
- Landscape Design for Sustainable Bioenergy Systems (DE-FOA-0001179) – Concept Paper due 11/21/2015
- Repowering Assistance Program – Ongoing
- Rural Business Enterprise Grant – Ongoing
- Rural Business Opportunity Grants – Ongoing
- Rural Energy for America Program
- Sunshot Catalyst Prize (DE-FOA-0001126) - Applications Accepted on a Continuous Basis - The U.S. Department of Energy SunShot Catalyst is an open innovation program that allows the public to rapidly create and develop products and solutions that address near-term challenges in the U.S. solar marketplace through prize challenges.
- Sustainable Agriculture Research and Education Grants - Ongoing
- Renewable Energy RFP's - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power – Various Deadlines
- U.S. Dept. of Agriculture - Rural Development Grant Assistance
- Green Refinance Plus – Ongoing
- National Science Foundation Funding Opportunities

FEDERAL RESOURCES

- Guide to Federal Financing for Energy Efficiency and Clean Energy Deployment
- Grants.Gov
- FedConnect
- Funding Opportunity Exchange
- Renewable Energy Request for Proposals - Proposal due Dates Vary